Report for 2003AR57B: Analysis of Water Conflicts in Pakistan and the Middle East A Comparative Study

There are no reported publications resulting from this project.

Report Follows

Statement of Problem

Irrespective of race or nationality water is a spring of life for every living thing. Water is not however available to every one equally or even equitably. Extended drought during recent years and shrinking water resources in Pakistan and Middle Eastern countries (Jordan, Israel, Lebanon, Syria and Egypt) indicate that the countries are nearing conditions of chronic water stress. The gap between demand and supply of water across all the countries has increased to levels creating inter-provincial and transboudary conflicts. This is also true about the water situation in the USA, especially in Western region where Colorado fights with Kansas over water rights in the Arkansas River basin, and in the regions of the country experiencing significant groundwater depletion.

In the case of Pakistan, conflicts over water abound. Smaller provinces such as Sindh, NWFP and Blochistan complain that, Punjab the largest province is usurping their share of water. Additionally there is friction between Pakistan and India on water apportionment of the Indus River. This situation is further complicated by arch rivalry and cultural heterogeneity on both sides of the border.

Equitable water allocation is also a bone of contention among some Middle Eastern countries. The Jordan River system shared by Jordan, Israel, the Palestinians of the occupied territories, Syria, and Lebanon is a major focus of Middle Eastern politics. The Middle Eastern situation seems complex for many reasons. There are tribal systems that still prevail in many of the countries, and cultural and religious practices vary and sometimes conflict across nations. Most importantly attitudes towards water consumption vary across countries. For many Middle Eastern countries water is more valuable than oil for them to survive in 21st century. This situation highlights the importance of developing new resources and adopting water-conservation measures for extremely judicious use of the finite quantity of water including surface water, rainfall, and groundwater not only in Pakistan but in the Middle Eastern countries as well.

Objectives

The objectives of the proposed study are:

1) To examine socio-cultural, political, and water resources situations in Pakistan, India and the Middle East to search for sustainable approaches for managing and decreasing water resources in Pakistan and the Middle East, and

2) To evaluate alternative policy scenarios, within the design of the local and regional implementation schemes, for resolving inter-provincial and transboundary conflicts. The following sections discuss the background to the water conflicts between Pakistan and India and among the Middle Eastern countries, data sources and the expected results of the study.

Policy Issue Background

Water has a direct bearing on almost all sectors of economy not only in Pakistan, but other regions of the world including Middle East as well. In Pakistan it holds very high importance due to the agrarian nature of the economy. The share of agricultural sector in the Gross Domestic Product (GDP) of Pakistan is about 24 % (WAPDA, Pakistan 2000). Since agriculture[1] is the major user of water, therefore the sustainability of agriculture depends on the timely and adequate availability of water. The increasing pressures of population and industrialization have already placed greater demands on water, with an ever-increasing number and intensity of local and regional conflicts over its availability and use.

Once a water-surplus country with the huge water-resources of the Indus River System, Pakistan is now a water-deficit country. At present, the annual per capita water- availability in Pakistan is about 1100 cubic meter (m3); below 1,000 m3, countries begin experiencing chronic water stress (Population Action International, 1993). The worsening water situation in Pakistan often creates unrest among the four provinces and also contributes to inter-regional conflicts between India and Pakistan. India and Pakistan have waged war three times (1965, 1971 and recently battle of Kargil in 1999) most often it is described as a conflict over the area known as Kashmir (the disputed territory) issue, but water is always one of the underlying factors. Z. A, Bhutto (the then Prime Minister of Pakistan), while addressing the UN Security Council in 1965, clearly indicated that there cannot be peace between India and Pakistan unless problem of Kashmir is solved. The main hindrance in Kashmir's solution, he stressed is issue of water. Pakistan fears, if India takes over Kashmir, it can easily block the water to Pakistan, which will devastate Pakistan's economy.

There is a similar theme in the nature of conflicts among the Middle Eastern countries. In fact, water has become a key element in the balance of power among Syria, Israel, Lebanon, Iraq and Turkey (Wihbey & Berman, 2000). This is true for Israel and Lebanon where there has been an armed conflict over water, in particular, the Litani River. As noted by Dolatyar (1995), Israel invaded Lebanon in 1982 and occupied its South until the year 2000 to secure the waters of the Litani River. Then, on September 11, 2002, Israel considered pumping water from an affluent to the Jordan River by Lebanon – the Wazzani River – as a "casus belli" and declared war on Lebanon (L'Orient-Le-Jour, 2002). There is no war yet, but everybody became involved in the conflict from the UN to Mr. Colin Powell personally (Fisk, 2002).

Relevance to Central Great Plains Water Situation, USA

The Central Great Plains Region includes Missouri River basin and the Arkansas River basin serving eastern Colorado, Montana, Nebraska, North Dakota, South Dakota, and Wyoming, as well as Kansas, Oklahoma, and the eastern Texas.

The biggest regional issue is the lack of surplus capacity in regional water supplies. For example, water from the Arkansas River serves multiple uses as it passes through the different states. The

[1] Irrigated agriculture in the Western state of the USA is the main end user as well. Though, there is transformation from agriculture to urban development, nevertheless agriculture continues to receive a major water share.

resulting conflicts over allocation of limited groundwater[2] and surface water supplies have led to a number of lawsuits in the region. Conflicts in Arkansas River basin are particularly contentious mainly due to falling groundwater table. Excessive pumping for irrigation and urban uses have increased demands for access to surface water or decreased supplies of surface water.

Irrigated agriculture being a main end user in the Central Great Plains claims about 76 percent of all withdrawals of surface water. This figure is much higher in many western states and river basins. For example, approximately 95 percent of the water diverted from the Rio Grande and the upper basin of the Colorado River is used for irrigating crops and livestock only. This situation calls upon policy makers to refine the water administration practices to avert water crisis in the future as increase in population and urbanization demand for water will increase the competition among the sectors.

Claims to water rights by Native Americans are another source of conflict in allocating water in the western states. Recently, many tribes have asserted their water rights, but most of them have not been able to succeed in claiming their due rights from long-established users. Many disputes remained unresolved, and most tribal water rights are not quantified[3]. Besides, challenges of living and farming in a river basin can be overwhelming to individual water users, when there is uncertainty over down stream water rights[4], growing urban water demands, and increasing awareness of the need to protect aquatic ecosystems. This alarms that; the water distribution among competing sectors will pose a great challenge for water management in the western states.

Methods

In order to undertake a study of this magnitude requires the use of secondary data in most cases. However, the study was also substantiated with primary data. Primary data consisted of interviews with the key personnel in Pakistani water related institutions (for example, Water and Power Development Authority (WAPDA), On Farm Water Management (OFWM), Pakistan Irrigation and Drainage Authority (PIDA), Indus River Systems Authority (IRSA)). These personnel know the water situation very well and providee information about (1) the development and roles of water institutions in the historical context, (2) the coordination among institutions, (3) the inter-provincial water conflicts, and cultural and religious heterogeneity that complicates the water situation and (4) strategies to resolve the conflicts. This qualitative data collected through interviews were used to further understand secondary data sources. Secondary data for Pakistan came from published materials including departmental quarterly and annual reports, project documents, gazettes and bureau reports of WAPDA, OFWM, PIDA, IRSA and other relevant departments. Data on water use were supplemented by additional information

[2] Arkansas defines ground water as part of "the water of the state". As such, it is subject to the full protection afforded by the Arkansas Water and Air Pollution Control Act.

[3] Though to lesser extent, this situation is similar to one in the Middle Easter countries as several tribes claim their rights to water.

[4]Sindh province of Pakistan is the lower riparian province on Indus River, and is experiencing severe water shortages due to over withdrawal of water by the upper riparian. This situation has created a kind of mistrust among four federating units of Pakistan.

regarding GDP, international trade with emphasis on trade with India and the Middle Eastern countries, population, and annual freshwater withdrawals from the Indus river and other two small rivers, as well as facts pertaining to national governments, languages, and ethnicities, which are obtained from Pakistan Financial Statistics Yearbook, and the World Bank resources.

Data for India came mainly from secondary sources such as 1) Ministry of Irrigation, Ministry of Agriculture, Commission on Center-State Relations, Government of India, Indian National Water Development Agency, published materials from several economic and water resources journals, World Bank and World Commission on Dams reports.

Secondary data from Middle Eastern countries came from several country reports, published papers, water related research reports and most importantly database called the Transboundary Freshwater Dispute Database (TFDD) summarized by Hamner and Wolf. This database contains the general findings from comparative assessments of river basin treaties. The collection included water related treaties and also 39 U.S. inter-state compacts dating from 1870 to the present. The TFDD contains information regarding the basins involved in treaties, the principal focus of the management of the basins, the number of signatories to a given treaty, the non-water linkages (such as, money, land or other concessions) of a given treaty, the provisions for information sharing, monitoring, conflict resolution, and enforcement provided by a given treaty or agreement, the method and amount of water diversion acceptable under the terms of the treaty, and the date on which the agreement was signed.

Research will also made use of the water laws and water related legislations of the USA, especially Water Act 217 that was passed by the Arkansas Legislature in 1969 to make Arkansas soil and water conservation commission responsible for water planning at the state level and the development of the first Arkansas Water Plan[5]. Based upon the data, the dissertation identified scientific and socio-political approaches for simulating alternate policy scenarios, within the design of the local and regional implementation to resolve the future regional conflicts.

The emphasis was on the role of inter-provincial and regional geopolitics in the development and management of water resources in two regions. Research was undertaken in two parts. First, investigations was directed towards cooperative solutions to manage water both within the borders of Pakistan and between Pakistan and India. Second, water management strategies used in this region were compared to some used in the Middle East. Initial emphasis has been placed on the study of Jordan, Israel, Lebanon, Syria and Egypt.

Significant Findings

This project provided summer funding during the summer of 2003 in support of ongoing Ph.D. dissertation preparation by Mr. Itlaf Abro, Public Policy Ph.D. program, University of Arkansas. The dissertation is still in preparation with an anticipated completion date of May 2005.

[5] The plan was completed and published in 1975. Due to the ever-changing nature and severity of water resources problems, the legislature enacted Act 1051 to the original plan in 1985 directing the Commission to make it relevant to the changed situation.

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